California Postsecondary Education Commission

Meeting the K-14 Challenge: Examining the Case for Doctoral Programs in Educational Leadership

September 2007

State law requires the California Postsecondary Education Commission to review and comment on the need for new degree and certificate programs proposed by the public higher education systems.

This report contains three policy recommendations intended to increase the likelihood that current and proposed doctoral programs in educational leadership will achieve desired results and consequences, and provides recommendations for enhancing and strengthening CSU doctoral proposals.

Contents

The Commission advises the Governor and the Legislature on higher education policy and fiscal issues. Its primary focus is to ensure that the State's educational resources are used effectively to provide Californians with postsecondary education opportunities. More information about the Commission is available at www.cpec.ca.gov.

Draft Commission Report

Introduction

Legislation passed in 2005 authorizes the California State University (CSU) to award the Doctorate of Educational Leadership independent of the University of California (UC). All joint doctoral programs in educational leadership between the State University and the University of California are scheduled to be gradually discontinued. Following a comprehensive review of the first set of CSU proposals for new doctoral programs in educational leadership, the California Postsecondary Education Commission recommends that:

1. The California State University and the University of California develop a strategic plan for preparing educational leaders to participate more effectively in K-14 reform efforts, even though each system would award the doctorate in educational leadership independently;

2. The State invest program funds to help support the development of evaluative tools that could be used at an appropriate time in the future to assess the collective effect of CSU and UC doctoral leadership programs on K-14 student learning and reform;

3. The University of California and the California State University include K-14 performance measures to help inform the collective effects of doctoral leadership programs on student learning and achievement. Such measures might include student proficiency scores, California High School Exit Exam results, college-going rates, community college transfer rates, and

school academic performance index (API) scores. Performance results should be reported on a regional and statewide basis.

The Rationale for Doctoral Leadership Programs

The level of student academic achievement at any point in time is a direct consequence of many factors, including attainment of perquisite content knowledge and skills (student readiness), student motivation, quality of teaching and instruction, teacher training, and assessment practices that precisely pinpoint learning deficiencies. Student achievement is also a consequence of a combination of support factors, including the adequacy of fiscal and learning resources; school management practices; visionary school leadership; parental support; academic preparation and equity programs; school safety; and collaborative alliances that consist of the K-12 system, the higher education system, California's industry and business community, and philanthropic partners.

School administrators and school management practices, in particular, have been the subject of extensive debate at the local, state, and federal level. It is now readily acknowledged that state and federal standards-based reform practices are requiring school administrators to manage public schools much differently than in the past and to be keenly attentive to a wider range of public expectations. Arthur Levine describes these challenges in his report, *Educating School Leaders* (2005). The excerpt shown below is from that report.

> *In an outcome-based and accountability driven era, administrators have to lead their schools in the rethinking of goals, priorities, finances, staffing, curriculum, pedagogies, learning resources, assessment methods, technology, and use of time and space. They have to recruit and retain top staff members and educate newcomers and veterans alike to understand and become comfortable with an education system undergoing dramatic and continuing change. They have to ensure the professional development that teachers and administrators need to be effective. They have to prepare parents and students for the new realities and provide them with the support necessary to succeed. They have to engage in continuous evaluation and school improvement, create a sense of community, and build morale in a time of transformation.*

In adopting *Chapter 269 of the California Education Code*, *Statutes of 2005*, the California Legislature formally acknowledged the crucial role that school leaders assume in promoting effective school and student success. The statute authorizes the California State University to offer doctoral programs in educational leadership to prepare leaders and administrators to participate effectively in school reform efforts and to formulate administrative practices that will lead to improvements in K-14 instruction and learning. The statute also requires the CSU to design and operate doctoral leadership programs in partnership with public schools and community colleges. Previously, the State University had been limited to offering the doctor of education degree only in partnership (jointly) with the University of California, or in partnership with one of the state's independent colleges and universities.

Section 66040.3 of the Education Code expresses the intent of the Legislature that the California Postsecondary Education Commission review and comment on all CSU educational doctoral proposals to ensure, among other important considerations, that such proposals address *specific* educational leadership needs. The following excerpt references the Commission's responsibility with respect to CSU doctoral leadership proposals. As stated:

> *Nothing in this article shall be construed to limit or preclude the California Postsecondary Education Commission from exercising its authority under Chapter 11—commencing with*

Section 66900—to review, evaluate, and make recommendations relating to any and all programs established under this article.

Although CSU leadership proposals are being tailored to address specific local and regional challenges, it appears that all campuses share a common mission to provide doctoral-intensive instruction and clinical research experiences that will assist practitioners in (a) identifying and implementing best practices, (b) managing schools in a more fiscally-sound manner, and (c) promoting equitable educational opportunities. The CSU Chancellor's Office has requested that each campus use *California Standards for Educational Leadership* as a framework in developing curricula and in crafting the overall design of proposed leadership programs. State-supported leadership programs have the potential to positively impact schooling and student learning if:

1. The programs are successful in attracting and enrolling educational leaders that are currently working in the field, including district and county superintendents, school principals, educational researchers and analysts, and community college presidents and departmental chairpersons.
2. The leadership programs are aligned with K-14 leadership needs.
3. The programs are of the highest quality.
4. Appropriate evaluative tools are developed to assess the impact of leadership programs on schooling and community college success.

Recent National Research Regarding School Leadership Programs: Lessons to be Learned

Despite the challenges confronting school leaders and administrators, the potential for school leadership programs to have a positive impact can be maximized when the above four critical factors are addressed.. High-quality leadership programs are of little value unless practitioners who enroll in these programs sincerely want to make a difference, as opposed to simply obtaining an advanced degree in order to increase salary and related executive compensation benefits.

Recent scholarly research and literature on various doctoral leadership programs offer keen insights. Levine's four-year study (2005) involved a national representative sample of 28 education graduate schools. These schools were selected to reflect the diversity of the nation's education schools with respect to region, race, gender, religion, and Carnegie classification. Data were obtained from deans, departmental chairpersons, education school faculty members and alumni, and school principals. Education departments and schools in the sample were rated in relation to the following nine criteria:

- Program purpose
- Curricular coherence
- Curricular balance
- Faculty composition
- Admission selectivity
- Degree requirements
- Scholarly research
- Financial resources
- Assessments

The authors generally found the overall quality of educational administration programs to be poor, even for some of the nation's leading universities. Exceptions included the Education School at the University of Wisconsin, Madison, and the Peabody College of Vanderbilt University (Levine, 2005, page 23).

Common criticisms were that school leadership programs do not engage in systematic self-assessment; curricula are disconnected from the needs of leaders and their schools; the professoriate are ill-equipped to educate school leaders; faculty research is detached from practice; and programs generally receive insufficient funding.

The 2002 edition of *Leadership and Public Policy in Schools* includes an article that also underscored the need for better assessment practices. The authors argued that it is difficult to discern the impact of educational leadership programs. Universities have directed little effort in producing credible evidence that informs practitioners, scholars and policymakers on such programs' effectiveness. The good news, according to the researchers, is that many universities are reforming their leadership programs in meaningful ways, such as: (a) using cohort groups, (b) aligning courses with professional standards, and (c) strengthening field experiences. The bad news is that universities have shown little interest in collecting data to link reform efforts to the asserted purpose of producing capable leaders who can enhance student learning and that can better prepare our nation's youth for jobs and citizenship.

The authors of a WestED article, *Turning Around Low Performing Schools and Districts* (2007), observed that many school administrators fail to use performance data to find the right focus for school reform, and that they often seek a prescription before studying the disease. The Commission has found this latter observation to be characteristic of CSU doctoral leadership proposals: Relevant school performance data were not used to sharpen the focus of systematic regional needs.

Enhancing California Educational Leadership Proposals

There is universal agreement that quality programs start with quality proposals. That is, when a proposal establishes a compelling case along with supporting empirical evidence of need, it is more likely that the intended program would be of high quality and would achieve its desired outcomes and societal benefits. Although Commission staff concurred with the first set of seven proposals to establish CSU doctoral programs in educational leadership, a number of concerns and recommendations were conveyed to the State University for strengthening the quality of future leadership proposals that the Commission anticipates receiving next year. The concerns listed below were summarized in the Commission's 2007 Annual Program Review Report, and have since been discussed with a wide range of policy research agencies, including the Western Association of Schools and Colleges (WASC), the Legislative Analyst's Office, the Department of Finance, and WestED.

Concerns Regarding the Connection between Intended Outcomes and Workforce and Knowledge Needs

The Commission's guidelines require that proposals contain a reasonably informed description of the state's workforce and knowledge needs that would be addressed by a new degree program. Most of the initial proposals reviewed by the Commission make general reference to the State's educational leadership needs, and are not written with the level of specificity required by the Commission's guidelines. For example, one CSU campus proposal states:

> *The gap between the achievement of students of color and low socioeconomic status and that of their privileged counterparts continues to plague California PreK-12 schools, despite some gains associated with the standards-based reform efforts. The state's community colleges continue to struggle to improve their transfer rates to an acceptable level. The struggles of these two segments of the California education system serve to limit the opportunities for educational, social, and economic and societal well-being of the State of California.*

This rationale does not include specific school achievement measures or statistical information that describes the magnitude of leadership challenges related to student academic achievement and community college transfer. Further, the rationale does not reference a level of community college transfer the faculty at the CSU campus would consider acceptable for its particular region. The case for CSU educational doctoral proposals could be made more compelling through the inclusion of statistical evidence quantifying the challenges confronting school and community college administrators and how administrators with advanced leadership skills might more effectively manage public schools and colleges and lead district-level reform efforts to improve student-learning outcomes. Because the CSU is a regional system, evidence of need should be region-specific.

As an example, a particular region of the state could be marked by: (a) high teacher turnover, (b) low student performance, (c) significant student attrition, (d) low college-going rate, (e) inadequate classroom and laboratory facilities, (f) significant numbers of English-language learners, (g) a high proportion of district teachers who are not fully credentialed, and (h) chronic unemployment among certain ethnic-racial groups.

What specific skills and domain knowledge at the doctoral level would assist administrators and superintendents in effectively managing schools with such challenges? The first task is to more clearly define challenges by reporting statistical evidence. For instance, regional Academic Performance Index Scores (API) could be used as a measure of school performance. Historical UC and CSU freshman participation rates could be used to assess college- and university-going rates. Dropout rates and California High School Exit Examination performance by ethnicity and gender could be used to assess regional student attrition.

The Commission's intent is not to prescribe the full range of evidentiary information to be included in proposals. Rather, the interest is to assist State University leaders in thinking critically about what statistical evidence will be most helpful in establishing their case for an urgent and compelling need for educational leadership doctoral programs. Including such statistical evidence in proposals will help focus subsequent evaluations of program effectiveness.

Concerns Regarding Societal Need — Workforce Demand and Supply Component

The Commission recognizes that the CSU intends to better prepare a preexisting administrative workforce by attracting and enrolling qualified individuals who are already employed in school and community college leadership positions. However, because the CSU also intends to prepare and train aspiring educational leaders, a comprehensive supply and demand analysis is required.

Display 1 illustrates one way to array regional supply and demand data elements. These elements are related to the absolute size of the school administrative workforce; the annual number of administrative hires; the annual number of workforce separations and leaves; educational leadership doctoral and master's degree production; and public community college and K-12 enrollment. These elements are highlighted because the opportunity for the CSU to positively impact the management of public schools in any particular region is tied to them.

DISPLAY 1 Illustrative Example of a Supply-Demand Table for Educational Administrators

	2001	2002	2003	2004	2005	2006
Public School Administrative Workforce *(Superintendents of any level Central Office Administrators Principals and Assistant Principals)*						
Public School Administrative Hires *(Superintendents of any level. Central Office Administrators Principals and Assistant Principals)*						
Annual Workforce Separations						
Ed.D. & Ph.D. Degrees in Ed. Leadership Related Fields awarded by Public and Private Institutions in the Region						
Master Degrees in Education Leadership Related Fields Awarded by Public and Private Institutions in the Region						
Public K-12 Regional Enrollment Data						
Community College Regional Enrollment Data						

Industry supply and demand data could have a number of helpful uses. The current ratio of regional workforce data to public school enrollment could be applied to the Department of Finance's 10-year enrollment projections in a given region, such as San Diego–Imperial Valley or the Fresno Central Valley. As an example, there could be industry demand for five new administrative hires per 1,000 students. This and other relevant information could be combined to help the CSU determine the annual number of new school administrative hires necessary to keep pace with public school enrollment growth. Estimates of doctoral degree production in educational leadership could be cross-tabulated with estimates of new administrative hires and help the CSU determine the relative opportunity it has to impact the skill and knowledge composition of a given regional administrative workforce.

Commission Concerns Regarding the Program Evaluation Component

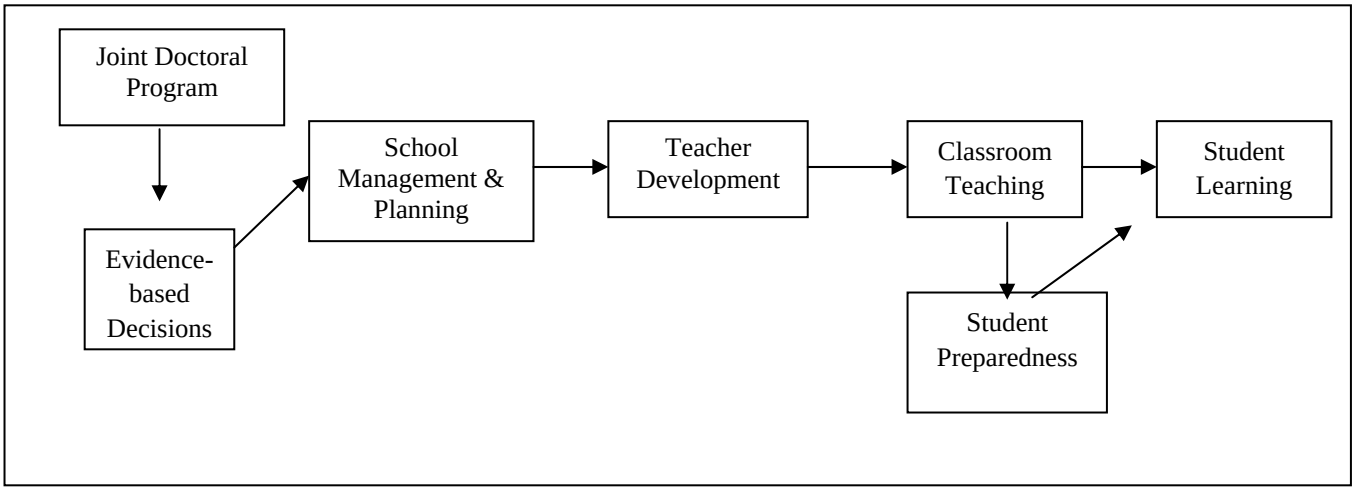
In considering evaluation plans associated with proposals for new degree programs, the Commission seeks to ensure that plans are reasonable and sound, and that they respond to any concerns expressed in legislation. In this regard, Section 66040.7(b) of the California Education Code calls for the State University to develop education plans that involve, among other considerations, the collection and assessment of "available evidence on the effects that graduates of the programs are having on elementary and secondary school and community college reform efforts and on student achievement." The Commission acknowledges that the legislation calls for the CSU, in collaboration with the Department of Finance and the Legislative Analyst's Office, to evaluate the success of doctoral leadership programs. The Commis-

sion's interest is in knowing that reasonable formative steps are being taken to ensure that appropriate data will be collected to yield useful and meaningful results, as intended in legislation.

The Commission believes it is possible and appropriate for the State University, given Section 66040.7(b) of the California Education Code, to consider how an evaluation plan could be used to assess the indirect effect that doctoral leadership programs are intended to have on school management and student academic achievement. Such an evaluation procedure should be based on some theoretical model that connects management practices to schooling. It is readily acknowledged that theoretical models support the practice of evaluation by helping researchers to ask the right questions, to organize findings, and to provide insights into why one would expect various factors to be causally-related.

Display 2 illustrates direct and indirect influences on student learning. In this hypothetical example, classroom teaching and student preparedness have a direct influence on student learning. That is, the arrows from those two factors connect directly to student learning. The joint doctoral program is intended, among other outcomes, to significantly enhance the leadership and decision-making skills of school administrators by providing them with critical and practical understanding of a planning tool called evidence-based decision-making. Evidence-based decision-making is hypothesized to lead to improved school management practices. This, in turn, leads to enhanced teacher development opportunities. If all the mediating factors were positively impacted, then learning would be expected to improve.

DISPLAY 2 Hypothetical Path Analysis Depicting the Indirect Effect of a Doctoral Educational Leadership Program on Student Learning



The Commission believes that such a path analysis could serve three vital purposes with respect to program review. First, and foremost, it would help program developers to think in a more exacting manner about the path by which a doctoral program in educational leadership could influence K-14 student learning. Second, the path analysis is likely to help program developers to be more attentive to key mediators that impact both the program and the terminal outcome of enhanced student learning. Third, the analysis could help developers decide when assessments should be undertaken. From Display 2, it seems that the State would want to know at a minimum if the practice of evidence-based decision-making is enhancing the practice of school management and planning. A number of evaluative designs could be used to help determine the extent to which the implementation of best practices on the part of superintendents and school principals who received CSU doctoral training are enhancing student learning in critical knowledge domains. This would include mathematics and biological and physical sciences. Such evaluative methods include quasi-experimental, descriptive, and case-study designs.

Commission Concerns Regarding Program Costs

A major concern raised by staff is that CSU doctoral proposals have not used a consistent method for deriving Full-time Equivalent Students (FTES) calculations. FTES is a key determinant of anticipated instructional cost and State marginal costs funding. Part of the inconsistency derives from the tendency of CSU campuses to confuse the term *full-time students* with the term *full-time "equivalent" students*. For graduate programs, the Department of Finance defines full-time equivalent students as the annual number of graduate credit units divided by 24. Fall term FTES is defined as the number of graduate credit units divided by 12.

Another concern is that some CSU doctoral proposals did not clearly report anticipated program costs and revenues. The Commission's program review guidelines require institutions to identify the fund sources necessary for a campus to offer a new program in the near-term and in the long run. Commission staff requested that future leadership programs contain a five-year resource table that shows total anticipated program costs by expenditure category, and anticipated revenues by funding source. Funding sources are to include projected State FTES marginal costs funds, doctoral student fee revenue, professional fee revenue, financial aid set-aside funds, capital outlay funds, and funds from private sources. Expenditure categories are to include administrative, instructional, library, student support services, and capital and maintenance expenses.

Policy Recommendations

This section contains three policy recommendations intended to increase the likelihood that new CSU and UC doctoral programs in educational leadership will have desired instructional outcomes and societal benefits.

Policy Recommendation Regarding CSU and UC Collaboration

The Commission recommends that the California State University and the University of California develop a strategic plan for preparing educational leaders to participate more effectively in K-14 reform efforts, even though each system would award the doctorate in educational leadership independently of one another.

Policy Rationale

Display 3 shows the seven University of California campuses and 18 private and independent universities that offer doctoral concentrations in Education. The CSU's long-range plans indicate a desire for each of its comprehensive campuses to offer the Doctorate in Educational Leadership within the next several years. If those plans are approved and implemented, the number of public and private institutions offering doctorates in Education would total 44. Presently, the State has no readily available method of determining the impact of doctoral training on K-14 reform and student success. The best way to correct this situation is for the CSU and UC to develop a strategic plan demonstrating specifically how the combination of doctoral programs will meet K-14 statewide and regional leadership needs. Once a public plan has been developed, it should be expanded to incorporate the private and independent sectors.

Display 3 Public and Private California Universities Offering Doctoral Concentrations in Education

University of California	**Main Campus Location**
University of California, Berkeley	Berkeley, CA
University of California, Davis	Davis, CA
University of California, Irvine	Irvine, CA
University of California, Los Angeles	Los Angeles, CA
University of California, Riverside	Riverside, CA
University of California, San Diego	La Jolla, CA
University of California, Santa Barbara	Santa Barbara, CA
WASC-Accredited Non-public 4-Year Institutions	**Main Campus Location**
Alliant International University - San Diego	San Diego, CA
Azusa Pacific University	Azusa, CA
California Lutheran University	Thousand Oaks, CA
Chapman University	Orange, CA
Claremont Graduate University	Claremont, CA
Fielding Graduate University	Santa Barbara, CA
La Sierra University	Riverside, CA
Loyola Marymount University	Los Angeles, CA
Mills College	Oakland, CA
Pepperdine University	Malibu, CA
Saint Mary's College of California	Moraga, CA
Stanford University	Stanford, CA
University of La Verne	La Verne, CA
University of San Diego	San Diego, CA
University of San Francisco	San Francisco, CA
University of Southern California	Los Angeles, CA
University of Redlands	Redlands, CA
University of the Pacific	Stockton, CA

Policy Recommendation Regarding Public Investment in the Evaluation of Doctoral Programs in Educational Leadership Related Fields

The Commission recommends that the State invest program funds to help support the development of evaluative tools that could be used at an appropriate time in the future to assess the collective effect of CSU and UC doctoral leadership programs on K-14 student learning and reform.

Policy Rationale

On a national level, the literature reviewed for this report noted the difficulty in discerning the impact of educational leadership programs because little effort has been directed by universities to produce credible evidence that informs practitioners, scholars, and policymakers on the effectiveness of such programs. State law requires the CSU, in collaboration with the Department of Finance and the Legislative Analyst's Office, to conduct a statewide evaluation of its doctoral leadership programs by January 1, 2011. The evaluation is to include: (a) an assessment of the extent to which the programs are fulfilling educational leadership training needs, based in part on a supply-demand analysis; and (b) the collection of available evidence on the extent to which leadership programs are enhancing K-14 student learning and reform.

The Commission believes that a useful evaluation will require a mixed-methods approach that relies on both quantitative (quasi-experimental, descriptive) and qualitative (case studies, personal interviews) design features. Considerable time and expertise will be required for development and field testing. Although evaluation expertise resides within the CSU, the Department of Finance, and the Legislative Analyst's Office, the development of assessment tools will require external consultants who have extensive experience in program evaluation. In the absence of State General Fund support for the evaluation process, it is unlikely that in-depth assessments will be produced.

Policy Recommendation Regarding K-14 Student Performance Data

The Commission recommends that the CSU and the UC include K-14 performance measures to help inform the collective effect of doctoral leadership programs on student learning and achievement. Such measures might include student proficiency scores, California High School Exit Examination (CAHSEE) results, college-going rates, community college transfer rates, and school Academic Performance Index scores. Performance results should be reported on both a statewide and regional basis.

Policy Rationale

A major criticism of doctoral leadership programs noted in the literature is that university self-assessments have focused almost exclusively on basic institutional measures and less on long-term impact. Basic institutional measures include information on student admits, student enrollments, ethnic-racial composition, degrees earned, and the amount of resources required to produce a doctoral graduate. Little effort has been directed towards assessing environmental changes that have resulted as a consequence of leadership programs.

California adopted various K-12 accountability performance measures that have been subjected to rigorous reliability and validity standards. Those measures include student proficiency scores in mathematics, language arts, social sciences, and the physical and biological sciences; high school exit examination results; and school API scores. Because an ultimate aim of educational leadership programs is to enhance K-12 schooling, the Commission strongly believes that there should be some connection between advanced doctoral study undertaken by school leaders and their subsequent influence on school management practices and student performance.

The reluctance to embrace school performance measures in the evaluation of doctoral leaderships programs is associated with two common concerns. First, education faculty members argue that effective schooling is associated with a host of cognitive and institutional factors. As such, it is not possible to separate the effects of doctoral training from other improvement factors. Secondly, university faculty and department chairs do not want the success of their leadership programs to rest on the rate of improvement in student performance.

The Commission agrees that effective schooling is indeed associated with a wide range of factors (see Page 2 of this report for examples). Given the number of school leaders that the CSU and UC anticipate enrolling on an annual basis in the near future (430 or more), the State must have a reasonable understanding of how its investment in school leadership programs is contributing to student success. Not to do so would likely compromise the public trust in doctoral training.

The Commission wishes to emphasize that it is not calling for the type of evaluations describe here to be conducted in the near term. A strategic UC-CSU statewide plan should be developed first, and the CSU campuses should be given a reasonable amount of time to fine-tune their leadership programs. The State must also be willing to invest in the development and pilot-testing of evaluative tools. The earliest that such evaluations could be undertaken would be about the middle of the next decade. But the time to start systematic evaluation planning is now.

Examining the K-12 Challenge

Public School Accountability

California's school accountability and reporting system is intended to raise the academic achievement of all publicly enrolled students by establishing rigorous proficiency content standards and by monitoring results and progress. Each year, students attending primary and secondary public schools in California are required to take standardized tests (California Standardized Testing) in English/language arts, mathematics, social sciences, and science. These tests are aligned with state-adopted content standards describing the knowledge and skills that students are expected to be taught and to master at each grade level.

Performance results in various subject areas are weighted differentially to derive a school performance measure, called the Academic Performance Index (API). Growth targets, referred to as Adequate Yearly Progress, are established for each of the following public school types and districts: elementary and middle schools and districts; high schools and high school districts; unified school districts, and county offices of education.

Progress in Student Performance

Recent student performance data indicate that although student outcomes are far below federal target levels established for year 2013-14, California is achieving and sustaining a degree of progress in enhancing student learning. Since 2003, when all California tests were aligned to common performance standards, the percentage of public students in grades 2-11 who scored proficient in English/language arts increased from 35% in 2003 to 43% in 2007. During the same three-year period, proficiency scores in mathematics increased from 35% to 41%. Percentage point change results are highlighted in the last column of Displays 4 and 5, respectively.

DISPLAY 4: English-Language Arts, 2003-2007, Percentage of Students Scoring at and Above Proficient*

Grade	2003	2004	2005	2006	2007	Change in Percentage 2006-2007	Change in Percentage 2003-2007
2	36	35	42	47	48	1	12
3	33	30	31	36	37	1	4
4	39	39	47	49	51	2	12
5	36	40	43	43	44	1	8
6	36	36	38	41	42	1	6
7	36	36	43	43	46	3	10
8	31	33	39	41	41	0	10
9	38	37	43	43	47	4	9
10	33	35	36	37	37	0	4
11	32	32	36	36	37	1	5
State Total 2 - 11	35	35	40	42	43	1	8

DISPLAY 5: Mathematics, 2003-2007
Percentage of Students Scoring at and Above Proficient*

Grade	2003	2004	2005	2006	2007	Change in Percentage 2006-2007	Change in Percentage 2003-2007
Grade 2	53	51	56	58	59	1	6
Grade 3	46	48	54	57	58	1	12
Grade 4	45	45	50	54	57	3	12
Grade 5	35	38	44	48	49	1	14
Grade 6	34	35	40	42	42	0	8
Grade 7	30	33	37	41	40	-1	10
General Mathematics	20	20	22	22	21	-1	1
Algebra I†	21	18	19	23	23	0	2
First time test takers					26		
Repeat test takers					15		
Geometry	26	24	26	26	24	-2	-2
Algebra II	29	24	26	25	27	2	-2
Summative High School Math	43	41	45	46	48	2	5
Integrated 1	7	7	7	9	9	0	2
State Total for Grades 2-7 and End-of-Course tests	35	34	38	41	41	0	6

While the gains in language arts and mathematics are encouraging, it is well-understood by policymakers and educators that unless the rate of progress in student academic preparation and achievement is accelerated, the State will face a host of social and economic problems in the future, including:

- A shortage of young adults with the intellectual capacity to fill entry-level positions in industries and businesses that are vital to California's economic health;
- A decline in the proportion of high school graduates who are fully prepared for the academic demands of postsecondary education;
- An insufficient number of students in the educational pipeline available to fill vital professional occupations for which a baccalaureate degree is required; and
- An insufficient number of students in the educational pipeline with the cognitive and creative capacity to pursue graduate-level instruction in science-based fields that will enable California to maintain its competitive edge in the realm of scientific discovery and technological innovation.

Avoidance of this last potential problem might be especially challenging. As shown in Display 6, the level of student proficiency in any of the science subject matter areas during the 2007 reporting period did not exceed 37%.

DISPLAY 6: Science — End-of-Course, 2003-2007
Percentage of Students Scoring at and Above Proficient*

Test	2003	2004	2005	2006	2007	Change in Percentage 2006-2007	Change in Percentage 2003-2007
Earth Science	21	22	23	23	26	3	5
Biology	37	30	32	35	37	2	0
Chemistry	31	28	27	27	31	4	0
Physics	29	29	31	32	36	4	7
Integrated 1	7	5	8	9	11	2	4
Integrated 2	8	8	6	5	7	2	-1
State Total for End-of-Course Tests	29	24	27	28	31	3	2

Source: California Department of Education.

Student Performance by Gender and Selected Ethnic-racial Groups

Displays 7 and 8 reveal that student proficiency varies by gender and ethnic-racial group. In 2007, females outperformed males in language arts proficiency by eight percentage points. The performances of males and females in mathematics proficiency were nearly the same, with males slightly ahead of females by a single percentage point.

Differences in proficiency by ethnic-racial groups are more noticeable. In 2007, 66% of Asian students, and 62% of White students were proficient in language arts. Thirty-one percent of African Americans and 29% of Latino students tested at or above proficiency in 2007. Both ethnic-racial groups have made significant progress since 2003, when 22% of African Americans and 20% of Latino students were proficient in language arts. Superintendent of Public Instruction Jack O'Connell has stated that the ethnic-racial achievement gap is unacceptable, and that intense intervention efforts are at work in low-performing schools with significant numbers of African American, Latino, and socio-economically disadvantaged students.

In terms of mathematics 67% of Asian students and 53% of White students scored at or above proficiency. Twenty-five percent of African American, and 30% of Latino students tested proficient.

Display 7: Language Arts Proficiency Results by Gender and Selected Ethnic-racial Groups

Ethnic-Racial Group Gender	2003	2004	2005	2006	2007	Change
African American	22%	23%	27%	29%	31%	8
Asian (excludes Filipino students)	55%	56%	62%	64%	66%	11
Hispanic/Latino	20%	21%	25%	27%	29%	9
White	53%	54%	58%	60%	62%	9
Female	39%	40%	44%	46%	48%	9
Male	31%	32%	36%	38%	40%	9

Source: California Department of Education.

Display 8: Mathematics Proficiency Results by Gender and Selected Ethnic-racial Groups						
Ethnic-Racial Group Gender	2003	2004	2005	2006	2007	Change
African American	19%	19%	23%	24%	25	6
Asian (excludes Filipino students)	60%	60%	65%	67%	67	7
Hispanic/Latino	23%	23%	27%	30%	30	7
White	47%	46%	51%	53%	53	6
Female	34%	34%	38%	40%	40	6
Male	35%	35%	39%	41%	41	6
Source: California Department of Education.						

The Relationship between State-level School Accountability and the Federal No-Child-Left-Behind Act

California's accountability system is tied to the federal No Child Left Behind Act of 2001 (NCLB), which is being considered for reauthorization by Congress. The law enacted a nationwide, standards-based education reform program. The expectation was that setting high performance goals would be the most effective way to ensure success for all students. NCLB requires that all public schools of the same type (e.g., elementary, middle, and senior high schools) meet the same academic targets throughout any given state. Federal results are reported in terms of how well schools meet state-established annual growth targets. Under NCLB, schools that fall short of their growth targets are required to provide students with the option of transferring to a higher performance school. This option is referred to as public school choice. By the academic year 2013-14, 100% of the nation's public students are expected to be proficient in English/language arts and mathematics. States that elect to ignore certain provisions of NCLB are at risk of losing federal education funding.

It is very unlikely that Congress will re-authorize NCLB without substantial revisions, given the level of criticism that has been directed at various provisions of the law since its enactment. The bipartisan National Conference of State Legislatures (NCSL) is requesting that Congress and the Bush Administration adjust the law in a manner that will enable states to have greater flexibility in responding to unique schooling needs.

Schooling

Schooling is the process of imparting knowledge and skills to individuals through curriculum and instruction, experiential learning, and work-based learning. Effective schooling provides individuals with the necessary tools to become productive citizens, pursue higher education and lifelong learning, engage in meaningful employment, and work toward achieving their life goals.

Next Steps

This report is submitted as an Information Item, to allow the State University, the University of California, the Department of Finance, and the Legislative Analyst Office sufficient time to carefully consider the report's recommendations. Commission staff analysts intend to hold several policy meetings with the above mentioned parties and re-submit the report for Action at its December 2007 meeting.